SITE ANALYSIS

Site Analysis is the process of surveying and studying the existing environment andhow it will influence the structure, design and layout on the site.

Typical site analysis includes the site location and size, neighbourhood context, zoning, legal aspects, geology, physiographic (natural and manmade features), hydrology, soils, vegetation, wild life, climate, sensory stimuli and any other factor appropriate for the particular site.

SITE AND SURROUNDINGS(Questions to ask)

- Site location details (Road names, Address, Major land marks etc).
- Current context - Existing buildings, Car parking, Roads.
- Access to the site - Car parking, bus routes, train stations, cycle routes, pedestrian walkways.
- Traffic circulation - How do visitors/ pedestrians/ traffic to or near the site flow around or within it?
- Vegetation - Landscaping, greenery, shrubs and trees, open spaces.
- Views – Where are the best views to and from the site? Which is the most likely feature aspect?
- Building context – What style, period, state of repair are the surrounding building? Is it historical/ heritage/ conservation area?
- Surfaces and materials around the site.
- Site levels. How will this affect your design process? How does the site drainage work? Any problems with drainage?
- Weather – How does the weather affect the site? Is it well shaded, exposed?
- Noise, odour and pollution.
- Location of the site neighbourhood in the city.
- Location of site in the neighbourhood.
- Distances and travel times between the site and the locations of other related functions in the city.
- History of the site – If it is in conservation area you needs to go into more detail regarding cultural significance, historic significance etc.
- Aerial topography and maps (Google and Bing useful in taking aerial images)

SITE SERVICES

Location, Capacity and Conveyance form (type of pipe etc) of

- Electricity.
- Water supply.

- Waste disposal.
- Sewer.
- Drainage.
- Telecommunication.

NEIGHBOURHOOD CONTEXT

- Map of the neighbourhood indicating existing and projected property zoning.
- Building uses in neighbourhood.
- Age or condition of the neighbourhood building.
- Solid – void space relationships.
- Street light patterns, density.
- Architectural patterns such as roof forms, fenestration, materials, colour, landscaping, relationship to street, car storage strategies, building height, etc.

SITE AND ZONING

- Dimensions of the boundaries of the site.
- Dimensions of the streets around the site.
- Location and dimensions of easements.
- Present site zoning classification.
- Front, back and side yard setbacks required by zoning classification.
- Building height restrictions required by zoning classifications.
- Zoning formulae – required parking based on the type of building.

LEGAL

- Legal description of the property.

NATURAL PHYSICAL FEATURES

- Major contour and drainage patterns of the neighbourhood
- Topographic contours of the site.
- Major topographic features such as high points, low points, ridges and valleys, slopes and flat areas.
- Drainage patterns on the site. Directions of surface drainage, major and minor arteries of water collection. Major drainage patterns onto the site and from the site.
- Existing natural features on the site, in terms of preservation and reinforcement verses alteration or removal.
- On site features might include trees, ground cover, rock outcroppings, ground surface texture, holes, mounds, on site water.
- Type of soil at different levels below surface and safe bearing capacity of the soil. Soil type distribution over site area.

MAN MADE FEATURES

- Size, shape, height and location of any on site buildings. If these are to remain, the exterior character and interior layout should also be documented. If the buildings are to be part of the project, we must do a detailed building analysis of each facility.
- Location and type of walls, retaining walls, ramadas or fences.
- Location, size and character of exterior play fields, courts, patios, plazas, drives, walks or service areas.
- Location and size of curb cuts, power poles, fire hydrants or bus stop shelters.

CIRCULATION

- Any strong vehicular or pedestrian traffic generating functions in the neighbourhood.
- Existing and projected vehicular movement patterns. Major and minor streets, routes of service vehicles such as trash, bus routes and stops.
- On site sidewalks, paths and other pedestrian movement patterns including users, purposes, schedule of use and volume of use.
- If a pedestrian movement pattern is considered valuable and to be preserved our analysis should include an evaluation of how the existing pattern could be improved.
- Onsite or adjacent vehicular movement patterns including type of traffic, origins and destinations, schedule, volume of traffic and peak loads.
- Offsite traffic patterns should also include the relation of our site to the public transportation routes, stops at or near the site.
- Travel time to walk across our site, to drive across the site where these times may be important.

SENSORY

- Aesthetics has to do with what the person who will live in the site thinks is beautiful. The designer has the responsibility to educate the client to possibilities.
- Views from the site.
- Views to points of interest on the site from within the site boundaries.
- Views to the site from areas outside the site boundaries, including streets, walks, other buildings and vistas. Includes when the site first seen, angles, most dramatic views, best views, whether views are positive or negative.

- Locations, generators, schedules and intensities of any significant odours, smoke, or other air borne pollution on or around the site.

HUMAN AND CULTURAL

- Documentation of neighbourhood, cultural, psychological, behavioural and sociological aspects. Information includes population density, age, family size, ethnic patterns, employment patterns, income, recreational preferences and informal activities or events such as festivals, parades or fairs.
- Negative neighbourhood patterns such as vandalism and other criminal activities.
- Neighbourhood attitudes about the project that is about to be designed.
- Relative permanence of the neighbourhood population.

CLIMATE

- Sun and shade patterns at different times of the year.
- Temperature variations over the month of the year including the maximum high and lows.
- Humidity variations over the months of the year including maximums, minimums and average.
- Rainfall variations in mm and maximum rainfall.
- Prevailing wind directions for the months of the year including velocity in meters per minute and over course of the day and night and max wind velocity that can be expected.
- Potential natural catastrophes such as earth quakes, cyclone etc.

SOIL TYPE AND CONDITION

- Soil type affects type and size of a building foundation system, the drainage of ground and surface water, the types of plant material able to grow on a site.
- The safe bearing capacity of the soil is to be found out after which the structural systems and foundations will be designed accordingly.
- If a site is sloping the exact slope can be interpreted from a detailed contour map.
- It is important to check out the stability of the slopes.

VEGETATION AND NATURAL FEATURES

- The vegetation will consist of all the trees, flora and fauna present on the site.

- The types and location of plant material affects the site’s micro climate, solar radiation, wind, humidity, air temperature, visual screening and the absorption or dispersion of sound.
- Along with trees and vegetation, other natural features like rock formation, swamps, marshes etc are also to be identified.

PRECIPITATION AND HYDROLOGY

- Water bodies present in and around the site like ponds, lakes, rivers etc. The underground water table is another factor.
- Location and size of water bodies.

SEVEN PRINCIPLES OF GREEN ARCHITECTURE

- SITE AND ITS SURROUNDINGS
- ENERGY EFFICIENCY
- WATER EFFICIENCY
- MATERIAL EFFICIENCY
- INDOOR AIR QUALITY
- WATER REDUCTION
- LOW MAINTENANCE COSTS